



Working at Height Standard

1. PURPOSE

The purpose of this standard is to provide the requirements for working at heights when any of the following apply:

- Working at elevations of **4 feet or greater**
- A fall would result in an injury
- A fall would land a person into or onto a hazardous substance or object

This standard also provides guidance related to specific work areas and/or equipment types, such as fixed ladders, mobile elevated work platforms, hoist areas, catwalks, etc.

2. SCOPE

This Standard is applicable to employees employed by Expand Energy (EXE), its affiliates or subsidiaries who are working on Expand properties or on the company's behalf.

Contractors **shall** have their own Standard that meets or exceeds regulatory requirements.

3. DEFINITIONS

Authorized Person - One who can reasonably be expected to work within 6 feet of an unprotected side or edge that is 4 feet or more above a lower level and utilize PFAS / PFRS.

Anchor Point/Anchorage – A secure point of attachment for lifelines, lanyards, or deceleration devices. Anchorage points need to be rated for at least 5000 lb. per person. For example, if two people are utilizing the same anchor point, then the anchor point would need to be rated for 10,000 lb.

Body Harness – A system of straps which may be secured about the employee in a manner that will distribute the fall arrest forces over at least the thighs, pelvis, waist, chest, and shoulders with means for attaching it to other components of a personal fall arrest system.

Connector - A properly rated device (snap hooks, carabiner, etc.) that is used to couple (connect) parts of a fall protection system or positioning device system together.

Competent Person - One who is identified by the company and is trained and capable of identifying hazards related to working at height, appropriate corrective measures, as well as inspection of fall protection equipment.

Dangerous Equipment - equipment, such as vats, tanks, electrical equipment, machinery, equipment or machinery with protruding parts, or other similar units, because of their function or form, may harm an employee who falls into or onto the equipment.

Fall Protection – A system used to stop a person in a fall from a working level. It consists of anchorage, connectors, or body harness, and may include a lanyard, deceleration device, lifeline, or suitable combination of these. NOTE: Body belts are NOT acceptable in this application.

Free Fall – The act of falling before the personal fall arrest system begins to apply force to arrest the fall.

Lanyard - A flexible line of rope, wire rope, or strap which generally has a connector at each end for connecting body harness to a deceleration device, lifeline, or anchorage. There are several types of lanyards that have differing applications.

Lifeline - A Lifeline usually comes in one of three forms:

- **Vertical Lifeline**

A flexible line, which is connected at both ends to anchorage point(s). The lanyard on the harness is then attached to the lifeline via a device such as a rope grab. The employee slides the device up or down the lifeline manually while moving.

- **Self-Retracting Lifelines**

A vertical lifeline (cable or nylon strapping), which has a self-activating brake when it senses a fall. The lifeline is encased in a hardened plastic or metal casement. The casement is secured to an anchorage point and a connector on the lifeline is secured to a D-Ring on the fall protection harness.

- **Horizontal Lifelines**

A flexible line with connections at both ends secured to anchorage points. The line is horizontal and serves as a means for personnel to connect personal fall protection equipment to an anchorage.

MEWP – a Mobile Elevated Work Platform (MEWP) is a powered or manually positioned machine designed to provide temporary access to elevated locations. Common types of MEWPs include scissor lifts, cherry-pickers, boom lifts, vertical mast lifts, etc.

Personal Fall Arrest System (PFAS) - A system consisting of an anchor point, connectors, and safety harness. It will also include lanyards, deceleration device, lifeline, or combinations of these.

Personal Fall Restraint System (PFRS) – A system used to restrict travel so that it stops the worker before they reach an unprotected edge.

Self-retracting lifeline (SRL) - A deceleration device which contains a drum wound line which may be slowly retracted from, or retracted onto, the drum under slight tension during normal worker movement, and which, after onset of a fall, automatically locks the drum and arrests the fall.

Shall – Denotes a minimum requirement to conform to the Standard. To aid the reader, “**shall**” requirements are identified in bold. Any deviation from a minimum requirement must be approved via the Standard Exception Form.

Should – Denotes a recommendation, or that which is advised, but not required to conform to the Standard.

4. ROLES & RESPONSIBILITY

Supervisors are responsible for:

- Being knowledgeable of the standard and ensuring implementation within their area of responsibility
- Ensuring that employees comply with the fall protection requirements
- Conducting periodic evaluations of employees and contractors performing work involving fall protection

Engineering

- Design and construct facilities to meet standard and regulatory requirements

Competent Persons are responsible for:

- Identifying hazards and confirming that the appropriate fall protection and rescue system is selected, maintained, and used properly and that workers are trained in its proper use

HSER representatives are responsible to:

- Assist with implementation of this standard
- Assist with specifying types of fall protection to be used at EXE
- Ensure annual inspections on PFAS and PFRS are performed and documented by Competent Persons

Workers shall be responsible to:

- Understand the potential hazards of working at heights
- Complete required training
- Identify and mitigate potential fall hazards
- Inspect fall protection equipment prior to use and report defects to a supervisor
- Communicate uncorrected hazards to a supervisor

5. REQUIREMENTS

5.1 HAZARD IDENTIFICATION AND CONTROLS

Prior to starting a job at height, a JSA **shall** be completed to assess the potential fall hazards and identify the applicable controls to be implemented. Fall rescue **shall** be discussed during the JSA.

Hazards associated with working at heights include:

- Falls from height
- Suspension trauma while using fall arrest equipment
- Damaged or malfunctioning fall protection equipment
- Injury from dropped overhead objects
- Injury from collapsed scaffolds or work platforms

Hazard controls that should be implemented depend upon the work being done as well as site-specific conditions. The methods below are listed from most to least effective:

Method	Description
Fixed barriers and protective structures	Protective structures such as guardrails around an opening or edge to prevent falls.
Administrative controls	Prohibiting personnel from areas or work zones that present fall hazards.
Fall Restraint/Positioning	Prevents falls via travel restraint or work positioning (e.g., a fixed length line to prevent access to a leading edge).
Fall Arrest System	Protects users from hitting the surface below after a fall occurs. Typically consists of a body harness, lanyard, anchorage and connector.

5.2 FALL PROTECTION

Workers on a walking or working surface that is 4 feet or more above the ground or next lower level and has an unprotected side or edge **shall** be protected from falling. The protective measures implemented **shall** consist of one or more of the following:

- Fixed barriers or protective structures such as guardrails or protective covers. Guardrails **shall** meet the requirements of 29 CFR 1910.29.

- Travel Restraint Systems, which prevent the employee from going over any unprotected edge. These typically consist of body harness, anchorage, anchorage connector and lanyard (or other type of connector).
- Positioning Systems, which allow an employee to be supported on an elevated vertical surface and work with both hands free. These consist of equipment, connectors, and a body harness.
- Personal Fall Arrest Systems (PFAS), which stop or halt the fall. These typically consist of a body harness, anchorage, and a connector. The system may include a lanyard deceleration device, lifeline, or suitable combination of these.
- Fall protection must limit the free fall to a maximum of 6 feet. If a shock-absorbing lanyard is used, allowance should be for the extension of the lanyard when calculating free fall distance. A safety factor of an additional 2.5 feet should be included when calculating the free fall distance.

5.3 GUARDRAILS AND PROTECTIVE COVERS

Guardrails are used to eliminate fall potential and **shall** meet the requirements of CFR 1910.29. OSHA mandates the use of guardrails where the elevation of a platform or a working surface is 4 feet or higher above a lower level. Guardrails should be constructed of evenly spaced vertical posts, top rails, midrails, and toe boards as applicable.

Protective covers are used to eliminate fall potential from openings or holes in working surfaces. Protective covers must:

- Be securely attached
- Be designed to support the anticipated load

Wellhead cellars and underground valve boxes are two common areas that require protective covers or backfilling to eliminate worker fall potential.

5.4 FALL RESTRAINT SYSTEMS

Fall restraint systems prevent falls by:

- Travel restriction
- Work positioning

Fall Restraint Systems **shall** include:

- A full body harness with D-ring in the middle of the back situated between the shoulders and a tether that restricts travel to the edge of the working surface.
- An appropriate anchorage attachment (field fabricated anchor points **shall** not be utilized).

With travel restriction, workers are attached to a fixed-length line that prevents them from getting too close to an opening or edge.

Positioning systems allow workers to be supported on an elevated vertical surface and work with both hands free.

5.5 FALL ARREST SYSTEMS

Personal fall arrest systems (PFAS) limit the distance and consequences of falls. These typically consist of a body harness, anchorage, and connector(s). The system may include a lanyard deceleration device, lifeline, or combination of these.

Personal fall protection systems **shall** meet the following requirements:

- Only ANSI Z359.1-2021 approved fall protection systems **shall** be used.
- If vertical lifelines are used, each employee must be attached to a separate lifeline.
- Lanyards and vertical lifelines must have a minimum breaking strength of 5,000 lb.
- Self-retracting lifelines and lanyards that automatically limit free fall distance to 2 feet or less must have components capable of sustaining a minimum tensile load of 3,000 lb. applied to the device with the lifeline or lanyard in the fully extended position.
- D-rings, snaphooks, and carabiners **shall** be capable of sustaining a minimum tensile load of 5,000 lb. and proof tested to minimum tensile load of 5,000 lb.
- Snaphooks and carabiners **shall** be the automatic locking type.
- Ropes, lanyards, and harnesses used for personal fall protection must be compatible with all connectors used.
- A deceleration device, such as a fall arresting shock absorber or retract-a-lock mechanism, is required to minimize force to the body in the event of a fall.
- Self-retracting lifelines (SRLs) **shall** be hooked directly into the dorsal D-ring on the back of the full body harness. SRLs **shall** not be hooked into shock-absorbing lanyards.

Select anchor points to minimize potential free fall distance and swing hazards. (See Working at Height Quick Reference Guide).

Workers **shall** maintain 100% tie off when working at heights. This will require a double lanyard or two single lanyards to maintain the 100% tie off when transferring from one point to the next. (This requirement does not apply to work being performed from portable ladders.)

5.6 ANCHORAGES

An anchorage is the secure point of attachment for lifelines, lanyards, or deceleration devices when using a fall protection system.

- Anchorages **shall** be capable of supporting 5000 pounds per person attached.
- Anchorages should be located directly overhead when possible, to minimize fall distances.
- Manufacturer's approved anchorages **shall** be used when working from any elevated work platform if available.
- Permanent anchorages and lifelines **shall** be certified by a professional engineer and documented.
- Lanyards of any type or lifelines **shall not** be wrapped around anchorages and tied back onto themselves unless they are specifically designed for this purpose by the manufacturer.

5.7 INSPECTION AND MAINTENANCE

All equipment used for fall protection must be properly inspected and maintained.

- The manufacturer's instructions on wearing, maintenance and storage for all components of a fall protection system **shall** be followed.
- All parts of a personal fall protection system **shall** be visually inspected prior to each use for wear, damage, and other deterioration by the user.
- All parts of personal fall protection systems **shall** receive an annual inspection performed by a Competent Person and documented utilizing the fall protection inspection form or electronic equivalent.
- SRLs **shall** be inspected according to manufacturers' guidelines. Maintenance and inspections **shall** be documented and maintained at the nearest field office or in management system database.
- Fall protection and components subjected to a fall or which fail an inspection, **shall** be immediately removed from service and destroyed.

5.8 RESCUE

Jobs or tasks involving work at heights **shall** be evaluated for complexity, potential hazards, and controls to be utilized.

Fall rescue **shall** be included in the JSA when workers are using PFAS/PFRS to minimize potential suspension trauma in the event of a fall.

If it is determined that special rescue resources are required, they **shall** be acquired and in place prior to starting the task.

5.9 SPECIFIC WORK AREAS / EQUIPMENT

5.10 MOBILE ELEVATED WORK PLATFORMS (I.E., SELF-PROPELLED AERIAL LIFTS)

When using mobile elevated work platforms (MEWPs), workers **shall**:

- Be authorized and trained to operate equipment
- Use fall restraint (either a lanyard that is less than 3 feet or an SRL) secured to the MEWP integrated anchorage
- Identify overhead clearances and other objects
- Assume all wires/cables are energized until proven otherwise
- Set outriggers if equipped; utilize sufficiently sized pads on a level surface

When using mobile elevated work platforms, workers **shall not**:

- Exceed load capacity or vertical/horizontal limits
- Use the MEWP as a crane or to carry object larger than the platform
- Override safety devices
- Operate in conditions with wind speeds (constant or gusts) that exceed manufacturer's wind speed limitations

Wind speed ratings on MEWPs indicate the maximum wind speed at which a machine can operate. Refer to the equipment data plate or operations manual for equipment specific wind rating.

Pre-use and Periodic inspections shall be performed in accordance with regulatory requirements and manufacturer's specifications.

Pre-use inspections of MEWP's **shall** be completed prior to each use by a person authorized and trained to operate the equipment and should include:

Component Type	Component
Vehicle	• Fluid levels • Fluid leaks • Wheels and tires • Lower-level controls • Steering and brakes • Warning devices
Lift components	• Operating and emergency controls • Personal protection devices • Hydraulics • Mechanical fasteners and locking pins • Fiberglass and other insulating components • Outriggers, stabilizers, other structural components

5.11 RUNWAYS AND CATWALKS

Runways and catwalks with a fall distance of 4 feet or more **shall** be protected by guardrails. If guardrails on both sides of the catwalk is not feasible, guardrails may be used on only one side if:

- The runway is at least 18 inches wide, and
- Workers **shall** use a PFAS or a fall restraint system.

5.12 HOIST AREAS

Workers in a hoist area **shall** be protected from falling 4 feet or more to lower level by guardrails, PFAS, or fall restraint system.

When the guardrails are removed, if workers need to lean over the edge to facilitate hoisting, they **shall** use PFAS.

5.13 DANGEROUS EQUIPMENT

Workers more than 4 feet above dangerous equipment or other hazards **shall** be protected from falling by a guardrail system, a fall restraint system, or a PFAS.

Workers less than 4 feet above dangerous equipment **shall** be protected by falling into or onto the equipment by a guardrail system or a travel restraint system unless the equipment is covered or guarded to eliminate the hazard.

5.14 LOW-SLOPE ROOFS

If it is necessary to access a low-slope roof for maintenance activities, a guardrail system, restraint, or personal fall arrest system must be used.

If the work is temporary and infrequent, workers **shall** not go within 15 feet of the roof edge without using fall protection.

5.15 PORTABLE LADDERS

Portable ladders **shall** be inspected before each use, used in accordance with the manufacturer's recommendations, and only used for the purposes for which they were designed.

- Portable metal Ladders **shall** not be used near power lines or exposed energized electrical equipment.
- Ladder ends/feet **shall** be fitted with insulated non-slip material.
- Ladders with defects **shall** be immediately removed from service and tagged as defective.
- Ladders **shall** extend at least three feet (3') above an upper access landing.
- All ladders are to be secured before climbing.
- Use three points of contact when climbing ladders.

5.16 FIXED LADDERS

Fixed ladders **shall** be designed, constructed, and used in accordance with 29 CFR 1910.28 regarding personal fall arrest systems, cages, and other safety systems.

5.17 SCAFFOLDING

Scaffolding **shall** be erected, used, maintained, and dismantled in accordance with the manufacturer's recommendations as well as applicable regulations. A competent person **shall** supervise all scaffolds being erected, moved, dismantled, or altered and ensure the work is performed only by qualified personnel.

5.18 STAIRWAYS AND WORK STANDS

Stairways having four or more risers **shall** be equipped with stair railings or handrails in accordance with OSHA standard requirements. Mobile or permanent work stands with an elevated work platform that is four feet or more above grade **shall** have handrails or other means of fall protection.

5.19 WALKING-WORKING SURFACES

Safe means of access and egress **shall** be provided and **shall** be used by employees to and from walking-working surfaces.

- Aisles and passageways **shall** be kept clear and in good repair, with no obstructions that can create a hazard across or in aisles.
- Any hole in a walking-working surface **shall** be protected by a cover or a guardrail system.

6. TRAINING

All workers who may be exposed to fall hazards **shall** receive awareness training on the requirements of this standard every three years.

Workers identified as a Competent Person **shall** receive training to complete Annual Inspections and Evaluations.

All Authorized Persons who are expected to work at height and wear fall protection equipment **shall**:

- receive specialized fall protection training on the proper use and application of PFAS and PFRS
- undergo a one-time performance evaluation
- receive refresher training every five years

7. AUDIT REQUIREMENT

Audits **shall** be periodically conducted by HSER to confirm compliance with this Standard.

8. STANDARD EXCEPTIONS

Requirements outlined in this Standard **shall** be followed, unless a Standard Exception is filed on behalf of, and with the approval of the Operations Manager. The Company's Standard Exception Form is to be utilized to properly document any exceptions.

9. REFERENCES

- EXE Walking & Working Surfaces Standard
- EXE Working at Height Quick Reference Guide
- ANSI Z359.1-2021 The Fall Protection Code
- ANSI A92 Aerial Work Platforms
- OSHA 29 CFR 1910.140 – Personal Fall Protection Systems

- OSHA 29 CFR 1926 Subpart M – Fall Protection
- OSHA 29 CFR 1910 Subpart D – Walking-Working Surfaces

10. DOCUMENT CONTROL TABLE

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